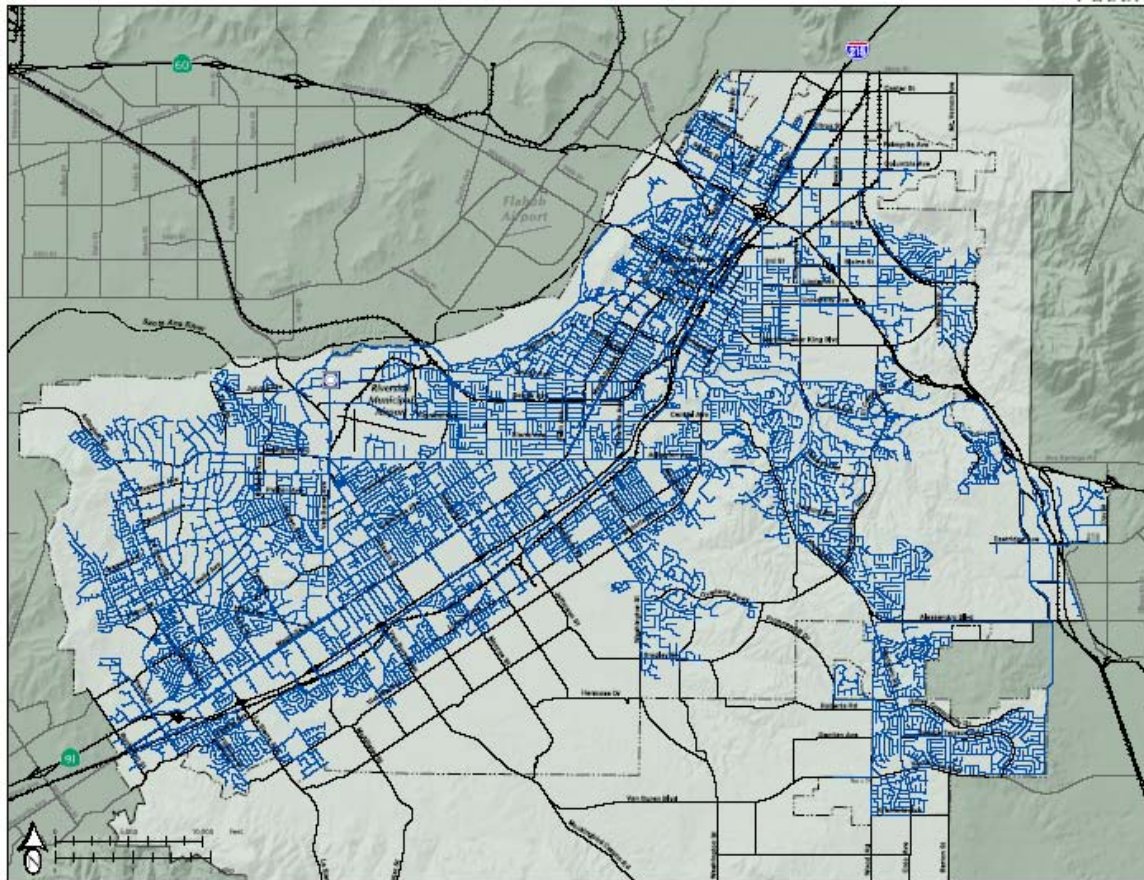


APPENDIX E.1

City of Riverside Wastewater Collection System

Appendix E.1

City of Riverside Wastewater Collection System.



Source: Draft City of Riverside General Plan 2025.

APPENDIX E.2

Recycled Water Rules

Appendix E.2

City of Riverside Public Utilities Department Water Rule #18

Recycled Water Rules

A. INTRODUCTION

1. Goal

The Goal of the City of Riverside is to encourage the use of recycled water in new and existing development. Recycled water will be used for land irrigation, impoundments, and commercial and industrial purposes where said use is consistent with regulatory requirements, the preservation of public health and welfare, and the environment. Recycled water will be utilized whenever and wherever financially and technically feasible, when the City can deliver recycled water at a price less than or equal to the cost of potable water, or when deemed in the best interest of the City.

These Recycled Water Rules (Rules) have been adopted to promote the reuse of water resources and to provide for the maximum public benefit from the use of the City's recycled water. Use of recycled water is necessary in order to minimize purchase of expensive imported potable water and to conserve high quality groundwater. Recycled water shall be used in accordance with the standards of treatment and water quality requirements set forth in the California Code of Regulations, Titles 17 and 22, to protect the public health.

2. Scope

The provisions of these Rules shall govern the requirements for recycled water use, the commencement and termination of recycled water service, and the conditions and regulations of such service within the City's jurisdiction. These Rules shall be interpreted in accordance with the purpose, policy and intent of these Rules and the definitions as set forth in Section 2 herein. The provisions of these Rules shall apply to the use of all recycled water delivered by the City. To comply with applicable Federal, State, and local regulatory agency requirements, provisions are made in these Rules for the regulation of recycled water use.

These Rules pertain only to the transmission and distribution of effluent from the Riverside Water Quality Control Plant. The PWD retains full control and responsibility for operating the Riverside Water Quality Control Plant and for producing effluent which

meets the Regional Water Quality Control Board and State Department of Health Services requirements.

B. DEFINITIONS

1. Definitions

Unless the context specifically indicates otherwise, the meaning of the terms used in these Rules shall be as follows:

Agricultural Use - Recycled water used for the production of crops and/or livestock and the preparation of these products for market.

Air-gap Separation - A physical separation of at least double the diameter of the supply pipe between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel, measured vertically above the overflow rim of the vessel. In no case shall the air gap be less than one inch.

Applicant - Any person, group, firm, partnership, corporation, association, or agency who applies for recycled water service under the terms of these Rules. An approved applicant becomes a user.

Application Rate - The rate at which recycled water is applied to a use area.

Approved Use Area - A site, with well-defined boundaries, designated in a user permit issued by the PUD to receive recycled water for an approved use and acknowledged by any and all applicable regulatory agencies.

As-Built Drawings - Record drawings that depict the completed recycled water service facilities as constructed or modified.

Automatic System - Automatic controllers, timers, valves, and associated equipment used to program irrigation systems for the application of recycled water.

Backflow - A flow condition, caused by a differential in pressure, that causes the flow of water or other liquids, gases, mixtures or substances into the distributing pipes of a water supply from any source or sources other than an approved water supply source. Backsiphoning is one cause of backflow. Backpressure is another cause.

Backup Facility Capacity Charge - A charge for water supply facilities including but not limited to production, transmission and storage facilities.

Board - The City of Riverside Board of Public Utilities.

City - The City of Riverside or designated employees of Public Utilities Department or Public Works Department as contained in the Interdepartmental Agreement.

Commercial Use - Any building for office or commercial uses with water requirements which include, but are not limited to, landscape irrigation, toilets, urinals and decorative fountains.

Commodity Charge - A charge imposed by the PUD for all recycled water used, whether such water use is estimated or is actually metered.

Cross-Connection - Any unprotected and/or unapproved connection or potential connection between any part of a water system used or intended to supply water for drinking purposes and any source or system containing water or substance that is not or cannot be approved as safe, wholesome and potable for human consumption.

Customer Service Valve - Valve at the terminus of the service connection, after the meter, which is the point of connection with the user's onsite facilities and may be operated by the user, per standard drawing detail.

Direct Beneficial Use - The use of recycled water which has been transported from the point of treatment to the point of use without an intervening discharge to waters of the State.

Distribution System Fee - A charge for facilities which comprise the distribution grid system including recycled water mains, valves and appurtenances which have been, or will be installed by or for the PUD.

Project Report - A report submitted detailing recycled water use area, plans, specifications and methods to be used by the Program Specialist for assuring that installation and operation of the system will not result in cross-connections.

Hose Bib - An outdoor faucet or similar device to which a common garden hose can be readily attached.

Industrial Process Water - Water for any industrial facility with requirements which include, but are not limited to rinsing, washing, cooling, circulation or construction.

Inspector - Any person authorized by the City to perform inspection of either onsite or offsite facilities prior to construction, during construction and during operation.

Interdepartmental Agreement - An agreement between the Department of Public Utilities and Department of Public Works outlining the responsibilities of each department pertaining to recycled water.

Irrigation Use - An approved use of reclaimed (or recycled) water for landscape irrigation as defined for reclaimed water under Title 22, Division 4, Chapter 3, Article 4 of the California Code of Regulations.

Landscape Impoundment - A body of water containing (all or part) recycled water which is used for aesthetic or irrigation purposes and which is not intended for public contact or ingestion.

Non-Potable Water - Recycled wastewater and groundwater not meeting Federal, State and local drinking water standards.

Non-Potable Water Policy - Policy that covers not only recycled water but also groundwater that do not meet Federal, State or local drinking water standards.

NPDES Permit - National Pollutant Discharge Elimination System permit granted to the Riverside Water Quality Control Plant by the California Regional Water Quality Control Board, Santa Ana Region.

Offsite Facilities - Facilities under the control of the PUD, including recycled water pipelines, reservoirs, valves, connections, and other appurtenances beginning at the PUD service connection meter at the RWQCP and ending at the point of connection with the customer's facilities.

Onsite Facilities - Facilities under the control of the applicant, owner or customer including but not limited to residential or commercial landscape irrigation systems, and agricultural irrigation systems, beginning at the water service meter or meters.

Owner - Any holder of legal title, contract purchaser, or lessee under a lease with an unexpired term of more than one (1) year, of property for which recycled water service has been requested or established.

Potable Water - Water which conforms to the latest Federal, State and local drinking water standards.

Program Specialist - The designated individual(s) possessing current certification issued by the California-Nevada American Water Works Association for a Cross-Connection Control Program Specialist - Grade II.

PUD - shall mean the Public Utilities Department of the City of Riverside.

PWD - shall mean the Public Works Department of the City of Riverside.

Quick Coupler Connection - An outdoor piping outlet to which a special piping attachment can be added to allow a common garden hose attachment to be used.

Reclaimed Water - As defined in Title 22, Division 4, Chapter 3, Environmental Health of the California Code of Regulations (Code) means water which, as a result of treatment of domestic/industrial wastewater is suitable for direct beneficial use or a controlled use that otherwise would not occur; such treatment of wastewater having been accomplished in accordance with the criteria for assurance of reliability, as set forth in the Code.

Recycled Water - Substitute term for reclaimed water as defined in Section 13050 of the California Water Code.

Recycled Water User Permit - A permit issued by the PUD to a recycled water service applicant after the satisfactory completion of the service application procedures set forth in these Rules. This permit constitutes a service agreement that legally binds the user to all conditions in these Rules and to any and all Regulatory Agency requirements.

Recreational Impoundment - A body of reclaimed water used for recreational activities including, but not limited to, fishing, boating and/or swimming. Allowable uses will depend on treatment level of the reclaimed water.

Reduced Pressure Principle Assembly - An assembly incorporating two or more check valves and an automatically operating differential relief valve located between the two check valves, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing.

Regional Board - The California Regional Water Quality Control Board, Santa Ana Region.

Regulatory Agencies - Those public agencies legally constituted to protect the public health and water quality, such as the Federal EPA, California Department of Health Services, California Regional Water Quality Control Board, Riverside County Health Department, Department of Fish and Game, U.S. Army Corps of Engineers, and Riverside County Flood Control and Water Conservation District.

Riverside Water Quality Control Plant (RWQCP) - City of Riverside Wastewater Treatment Plant located at 5950 Acorn Street.

Security Deposit - Monies required to be deposited with the PUD for the purpose of guaranteeing payment of monthly bills rendered for recycled water service.

Service - The furnishing of recycled water to a user.

Service Connection Fee - A charge imposed by and paid to the PUD to cover the installation costs of recycled water facilities to be paid for by the user/applicant as a condition prior to service.

Shall - means mandatory.

Supervisor - The Onsite Recycled Water Supervisor who shall be a qualified person designated by a recycled water user and approved by the PUD. This person shall be knowledgeable in the construction and operation of recycled water and irrigation systems and in the application of the Federal, State and local guidelines, criteria, standards, rules and regulations governing the use of recycled water.

Tertiary Effluent - secondary effluent which has been disinfected and filtered for purposes of removing a high percentage of pathogens and suspended solids. Allowable uses include body contact and irrigation of human food crops.

Title 17 and Title 22 - Title 17 and Title 22 of the California Code of Regulations.

User - Any person, persons or firm (includes any public utility, municipality or other public body or institution) issued a recycled water user permit by the PUD. The user and owner may be one and the same.

Violation - Noncompliance with any condition or conditions of these regulations and/or a user permit by any person, action or occurrence, whether wilfully or by accident.

Water Utility - The City of Riverside Public Utilities Department, Water Division.

C. GENERAL PROVISIONS

1. Administration

Except as otherwise provided herein, the City shall administer, implement and enforce the provisions of these Rules. Any powers granted or duties imposed upon the City may be delegated by the City to persons acting in the beneficial interest of or in the employ of the City.

2. Notice

Unless otherwise provided herein, any notice required to be given by the City under these Rules shall be in writing and served in person or by first class, registered or certified mail. Notice shall be deemed to have been given at the time of deposit, postage prepaid, in a facility regularly serviced by the United States Postal Service.

3. Confidentiality

Information and data on a user obtained from reports, questionnaires, permit applications, permits, sample data, and monitoring programs and from inspections shall be available to the public or other governmental agency without restriction unless the user specifically requests and is able to demonstrate to the satisfaction of the City that the release of such information would divulge information, processes or method of productions entitled to protection as trade secrets of the user.

4. Severability

If any section, subsection, sentence, clause or phrase of these Rules is for any reason held to be invalid or unconstitutional, such decision shall not affect the remaining portions of these Rules. The Board hereby declares that it would have approved said regulations by

section, subsection, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

5. Amendments

These Rules may be amended by the Board at any regular or special meeting for cause determined by the Board or PUD staff and without the approval of any user and will be administered as such. Insofar as these Rules support portions of Titles 17 and 22, any amendments to those documents are also immediately incorporated in these Rules.

6. Service Area

The regulations set forth herein pertain to recycled water service to lands and/or improvements lying within the legal boundaries of the Water Service Area of the City, unless otherwise stated.

7. Protection of Public Health

The City reserves the right to take any action with respect to the operation of the recycled water system and at such time as it deems proper to safeguard public health.

8. Liability

The City assumes no responsibility for the maintenance and operation of any onsite recycled water system beyond that which it retains with respect to violations of the regulatory agency requirements. The owner assumes all liability and responsibility of every other kind to the end that the City shall be kept whole and blameless at all times in any claim resulting from matters involving quantities, quality, time or occasion of delivery, or any other phase of the maintenance, operation and service of the owner's onsite facilities.

9. Time Limits

Any time provided in any written notice or any provision of these Rules may be extended only by a written directive of the PUD and upon showing of good cause.

10. Damage to City's Equipment or Facilities

No person shall enter, break, damage, destroy, uncover, deface or tamper with any temporary or permanent structure, equipment or appurtenance which is part of the City's recycled water, sewerage or storm drain system.

Any recycled water user who causes damage to the City's facilities, detrimental effects on treatment processes or any other damages including the imposition of fines by the State, Federal or other regulatory agencies on the City, shall be liable to the City for all damage

occasioned thereby including, without limitation, administrative expenses. An administrative fee of 90 percent of City's costs shall be added to these charges and shall be payable within 30 days of invoicing by the City.

D. COMMENCEMENT OF SERVICES

1. General

No person shall make connection to the recycled water facilities of the PUD without a recycled water user permit issued by the PUD.

2. Application

Persons desiring to obtain recycled water service shall make application for a recycled water user permit by providing such information as the PUD deems appropriate to evaluate the request including, but not limited to:

a. Name, address and contact phone number for:

1.Applicant

2.Owner of property to be served

3.Onsite recycled water supervisor

4.System operator

b. Legal description of property to be served.

c. Map showing use area and location.

d. Onsite usage plan.

e. Scaled drawing delineating the subject service area, identifying location and size of all service connecting and delineating areas in which recycled water service is to be specifically excluded.

f. Anticipated use and application rate.

g. Signed application for recycled water user permit/waste discharge requirements.

Persons required to obtain recycled water service shall also make application for a recycled water user permit following the same procedure, within two weeks after notification by the City.

3. Application Procedure

- a. An application for a permit shall be made in writing, signed by the applicant, owner, and customer, if they are not one and the same.
- b. By signing the application, the owner/applicant will agree to comply with the requirements of any and all applicable Federal, State and local statutes, ordinances, regulations and other requirements. Current requirements will be available at the PUD office upon request.
- c. Upon receipt of an application, the PUD or its designated representative will review the application and may prescribe requirements in writing to the applicant as to the design of the facilities, the manner of construction, the manner of connection, the method of operation, the financial responsibility and the conditions of service.

4. Permit/Agreement

- a. The PUD shall issue a recycled water user permit upon review of the Project Report, approval of an application for recycled water service and completion of a recycled service agreement. The permit shall entitle the applicant to receive recycled water service upon the terms and conditions of these Rules.
- b. The permit/agreement shall include the following:
 - 1.Name and address of applicant;
 - 2.A drawing of the proposed system showing the location and size of all valves, pipes, outlets and appurtenances;
 - 3.A statement that no changes in the proposed system will be undertaken without application and approval of an amended permit;
 - 4.A statement recognizing potential penalties for violation of City rules and regulations; and
 - 5.Outline of the rate provisions, terms and conditions of service.
- c. A recycled water user permit will remain in effect unless:
 - 1.A change of ownership occurs;
 - 2.A change of user occurs;
 - 3.Use of recycled water changes; or
 - 4.A use violation has occurred which results in a service turn off.

5. Project Report

The applicant shall submit a report dealing with specific aspects of the project:

- a. Detailed description of the intended area of use describing the following:
 - 1.Type, location and number of facilities within the project area intending to use the dual plumbed systems.
 - 2.The estimated daily average number of people to be served by each facility.
 - 3.The specific boundaries of the area to be served including a scaled map showing the location of each facility intending to use the dual plumbed systems.
 - 4.The individual(s) responsible for the operation of dual systems at each facility.
 - 5.The specific use for recycled water at each facility.
- b. Plans and specifications describing the following:
 - 1.Proposed piping systems to be used or installed.
 - 2.Piping locations of both the recycled and potable systems.
 - 3.Type and location of each outlet or plumbing fixture that will be accessible to the public.
 - 4.The assemblies and methods to be used at each service connection to prevent backflow of recycled water into the offsite water distribution system.
- c. A description of preventing the installation of a cross-connection.
 - 1.A method to be used by PUD to assure that the installation and operation of the dual plumbing system will not result in cross-connections between the recycled water system and the potable water system.
 - 2.A description of the testing method to be used by the Program Specialist to verify the lack of cross-connections every four years.

A new application and Project Report must be submitted to reinstate a permit canceled due to any of the above criteria.

E. FEES / DEPOSITS / RATES

1. Fees and Charges

The applicant/owner shall be responsible for the installation of onsite facilities and shall reimburse the PUD for actual costs of labor, material and equipment associated with the service connection as prescribed and designed by the PUD, and necessary offsite and onsite inspection services, and plan check fees as prescribed in the City's domestic Water Rules.

Annual Inspection and Shutdown Verification Testing Fees - Annual inspection and shutdown verification tests will be performed by the PUD for a fee associated with the actual cost of providing the service, or the customer may employ the services of a Cross-Connection Control Program Specialist possessing a valid certification from the California-Nevada American Water Works Association and acceptable to the PUD.

Commodity Charge - The rate for recycled water service shall be determined for each separate recycled water application/project based on the actual cost of service including any necessary offsite or onsite capital facilities financed by the PUD, appropriate cost of capital charges associated with Operations and Maintenance costs, administration and general expense, and fees/charges from other regulatory agencies.

2. Security Deposit

The PUD may require that an applicant, owner or user post a security deposit. Such amount shall not be less than the estimated cost of recycled water service for a two-month period, or such other amount determined by the PUD. Upon termination of the service, the security deposit will be applied to any outstanding charges on the account. Any resulting credit balance shall be refunded to the user.

F. CONDITIONS OF SERVICE

1. General

No person shall use or make a connection to the City's recycled water facilities without first obtaining a Recycled Water User Permit. Such permit shall be in addition to any and all permits and conditions required by Federal, State, or local regulatory agencies.

Service will be provided within the City's Water Service Area which is contiguous to existing recycled water distribution lines for the uses specified herein. Service will be provided to property not contiguous to existing distribution lines if the distribution line is extended to the applicant's property as provided below.

2. Service Connection

- a. The PUD reserves the right to determine the size of the service line(s), the service location and conditions of backflow prevention assembly(s) for potable water service protection, in accordance herewith, and any and all other appurtenances to the service. The service line(s) shall be installed to a curb line or within a public right of way, abutting upon a public street, highway, alley, easement, lane or road (other than a freeway) in which are installed recycled water mains of the City.
- b. The PUD reserves the right to limit the area of land to be supplied by one service connection to one ownership. A service connection shall not be used to supply adjoining property of a different owner unless approved by the PUD.
- c. All recycled water use shall be metered, and all recycled water used on any premises where a recycled water meter is installed must pass through said meter. Users shall be held responsible and charged for all recycled water passing through the meters, unless otherwise specified.
- d. When property provided with a service connection is subdivided, such connection shall be considered as serving the lot or parcel of land that it directly or first enters. Additional mains and/or recycled water service lines will be required for all subdivided areas in accordance with these Rules.

3. Limitations of Service

- a. The City shall not be liable for any damage by recycled water, or otherwise resulting from inadequate capacity, defective plumbing, broken or faulty services, or recycled water mains; or any conditions beyond the control of the City. All applicants for recycled water service shall accept such conditions of pressure, as provided by the distribution system at the location of the service connection and to hold the City harmless from all damage arising from low pressure or high pressure conditions, or from interruptions of service.
- b. The City is not responsible for any condition of the recycled water itself, or any substance that may be mixed with or be in recycled water as delivered to any user, except as required by Title 22.
- c. All recycled water service will be on an interruptible basis, depending on the quantity and quality of the recycled water available, in accordance with the terms of the individual service agreement between the City and the user.

4. Relocation of Recycled Water Service Line

Should a service installed pursuant to the request of the applicant, owner, or customer be of the wrong size or installed at a wrong location or depth, the cost of relocation or removal shall be paid by the applicant, owner or customer. All services provided prior to final street improvements shall be considered temporary and the costs for all repairs or

changes required to be performed by the PUD shall be paid by the applicant, owner or customer.

5. Scheduling Recycled Water

The City reserves the right to control and schedule the use of recycled water if, in the opinion of the City, scheduling is necessary for purposes including, but not limited to, the maintenance of an acceptable working pressure in the recycled water system and providing for reasonable safeguards in relation to public health.

6. Emergency Connections to Potable Water System

If, in the opinion of the City, an emergency exists whereby recycled water is not available, the Program Specialist may approve a temporary supply from the potable water system, delivered through an approved air-gap separation to the recycled water piping which complies with the requirements of Sections 7602(a) and 7603(a) of Title 17.

G. SERVICE CONTINUATION

1. General

All offsite recycled water facilities and all onsite recycled water facilities shall be designed and constructed according to the requirements, conditions, and standards as adopted and revised by the Board from time to time, which documents are open for inspection in the UD office, and by this reference are incorporated herein.

2. Offsite Recycled Water Services

Operation and surveillance of all of the City's offsite recycled water system facilities, including, but not limited to recycled water pipelines, reservoirs, valves, connections, supply interties, and other appurtenances beginning at the PUD service connection meter at the RWQCP and ending at the point of connection with the customer's facilities, shall be under the management and control of the PUD. No other persons except authorized employees of the PUD shall have any right to enter upon, inspect, operate, adjust, change, alter, move, or relocate any portion of the foregoing, or any of the City's property. If such should occur, all charges and penalties shall be applicable and collected. Such action may also be in violation of any and all applicable Federal, State, and local statutes, ordinances, regulations, and other requirements and subject to a service turn-off.

3. Onsite Recycled Water Services

a. The operation and maintenance of onsite recycled water distribution facilities are the responsibility of the applicant, owner, or customer.

b. The operation and maintenance of all onsite recycled water system facilities, including but not limited to landscape irrigation systems, agricultural irrigation systems,

systems utilized in relation to use of recycled water for industrial process or construction purposes, or recreational impoundment systems using the City's recycled water, shall be under the management of a Supervisor designated by the applicant, owner, or customer and approved by the PUD. Designated duties of the Supervisor include the responsibility for the cross-connection control program on the water user's premises. This Supervisor shall review the installation and revision of pipelines and equipment to assure that there are no cross-connections. The PUD may, from time to time, require that a Supervisor obtain instruction in the use of recycled water, such instruction being provided by or approved by the PUD. The Supervisor shall report to the City and local health department any incident of backflow of recycled water into the potable water system within 24 hours of the incident.

c. The PUD shall monitor and inspect the onsite recycled water system, and for these purposes shall have reasonable access. Where necessary, keys and/or combinations shall be issued to the PUD to provide such access.

d. The applicant, owner, or customer shall have the following responsibilities in relation to operation of onsite facilities:

1.To make sure that all operations personnel are trained and familiarized with the use of recycled water.

2.To furnish their operations personnel with maintenance instructions, irrigation schedules, and as-built drawings to ensure proper operation in accordance with the onsite facilities design and these Rules.

3.To prepare and submit to the City one (1) set of as-built drawings on mylar.

4.To notify the PUD of any and all updates or proposed changes, modifications, or additions to the onsite facilities, which changes shall be approved by the PUD and shall be designed and constructed according to the requirements, conditions, and standards set in these Rules. Changes, modifications or additions must be submitted to the PUD for plan check and approval prior to construction. The construction shall be inspected by the PUD, and revised as-built drawings and controller charts shall be approved by the PUD.

5.To operate and control the system in order to prevent direct human consumption of recycled water and to control and limit runoff. Operation and control measures of specific prohibitions shall include but not be limited to the following:

(a) Runoff Conditions - Conditions that directly or indirectly cause a runoff outside of the approved use area, whether by design, construction practice, or system operation, are strictly prohibited. Sprinkler head alignment shall not allow spray to be directed outside the boundaries of the approved use area.

(b) Windblown Spray Conditions - Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operations, are strictly prohibited.

(c) Unapproved Uses - Use of recycled water for any purposes other than those explicitly approved in the currently effective user permit issued by the PUD and without the prior knowledge and approval of the appropriate regulatory agencies is strictly prohibited.

(d) Cross-Connections - Cross-connections, as defined herein and by Title 17, resulting from the use of recycled water or from the physical presence of recycled water service, whether by design, construction practice, or system operation, are strictly prohibited. A detected cross-connection will result in an immediate termination of both the potable water service and the recycled water service until the cross-connection is located and eliminated to the satisfaction of the PUD Program Specialist.

(e) Hose Bibs - Use or installation of hose bibs on any onsite irrigation system presently operating or designated to operate with recycled water, regardless of the hose bib construction or identification, is strictly prohibited.

(f) Unprotected Public Facilities - Facilities that may be used by the General Public including, but not limited to, eating surfaces and playground equipment, and located within the approved use area designated by the user permit, shall be protected by an appropriate separation from contact with recycled water, whether by windblown spray or by direct application through irrigation or other approved use. Lack of such protection, whether by design, construction practice, or system operation, is strictly prohibited.

(g) Unprotected Drinking Fountains - Any and all drinking water facilities located onsite shall be protected from direct or windblown recycled water spray.

(h) Fire Hydrants - Use or installation of fire hydrants on any onsite system that is in current use or is designed to operate with recycled water, regardless of the fire hydrant construction or identification, is strictly prohibited.

(i) Ponding - Irrigation with recycled water should be controlled to prevent ponding and runoff unless approved by the City, otherwise it is strictly prohibited.

(j) Periods of Operation - The operation of the irrigation system shall be during periods of minimal use of the approved use area by the general public. Such periods of operation shall remain within any general period of recycled water irrigation operation specified by the City. Irrigation should be restricted to times when the area has least human contact.

6.To ensure that the recycled water facilities remain in compliance with these Rules.

7.To comply with any and all applicable Federal, State, and local statutes, ordinances, regulations, contracts, rules and regulations, and all requirements prescribed by the City. In the event of violation, all charges and penalties shall be applied and collected.

4. Meter Testing

If a recycled water meter fails to register during any period, or is known to register inaccurately, the customer shall be charged with an average daily consumption at the same season shown by the reading of the meter when in use and registering accurately. Any customer may demand that the meter through which recycled water is being furnished be examined and tested by the PUD for the purpose of ascertaining whether or not it is correctly registering the amount of recycled water being delivered through it. Such demand shall be in writing and shall be accompanied by a deposit equal to the potable bi-monthly service fee for a same sized meter.

Upon receipt of such demand and deposit, the PUD will have the meter examined and tested and, if upon such test the meter shall be found to register over two percent (2%) more water than actually passes through it, the meter shall be properly adjusted or another meter substituted therefor, the deposit shall be returned, and the recycled water bill for the current month will be adjusted proportionately. If the meter should be found to register not more than two percent (2%) more water than actually passes through it, the deposit shall be retained by the PUD to offset the expense of making the test.

5. Records

The user shall maintain as-built drawings of the use area showing all buildings, domestic and recycled water facilities, the sewage collection system, etc. Drawings shall be updated as modifications are made. The user shall keep a copy of the drawings on site and present them to the City as needed.

H. PROTECTIVE MEASURES

1. General

Recycled water may be used for any purpose permitted by Federal, State and local regulations provided that all such use is in accordance with these Rules and the City's NPDES Permit (Regional Board Order No. 95-18-NPDES-CA-0105350) and provided further that:

- a. The design and construction of the recycled water system shall be approved by the PUD.
- b. The applicant shall execute a service agreement to receive such water and use it only for approved purposes.

c. Violation of permit conditions will result in a notice of violation, fines and/or termination of service, depending on the severity of violation.

2. System Design Requirements

a. Recycled water distribution and transmission system piping shall comply with the design requirements contained in the California-Nevada Section AWWA publication "Guidelines for Distribution of Recycled Water" and AWWA publication "Dual Water Systems (M-24)."

1. All piping, valve boxes, valves and outlets shall be marked to differentiate recycled water from domestic or other water using purple piping, Pantone #512, or purple labeling.

2. All recycled water controllers and valves shall be appropriately tagged to warn the public and employees that the water is not safe for drinking.

b. All recycled water valves, outlets, quick couplers, and sprinkler heads shall be of a type or secured in a manner that only permits operation by personnel authorized by the user.

c. Notification shall be provided to inform the public that recycled water is being used. The notification shall include the posting of conspicuous warning signs with proper wording of sufficient size to be clearly read.

d. An air-gap separation or reduced pressure principle device as determined by the Program Specialist shall be provided at all domestic water service connections to properties having a recycled water service connection.

e. There shall be no connection between the potable water supply and piping containing recycled water.

f. Adequate measures shall be taken to prevent the breeding of insects and other vectors of health significance, and the creation of odors, slimes or unsightly deposits.

g. There shall be at least a 10-foot horizontal and 1-foot vertical separation (with the domestic water above the recycled water pipeline) between all pipelines transporting recycled water and those transporting water supplied from the domestic system.

h. In special cases where a 10-foot horizontal separation is not practical, the domestic water piping shall be encased with concrete using a 2-sack sand-cement slurry. Concrete dimension shall be a minimum of 12" above and on each side of the pipeline. Approved 3" width marking tape, labeled "DOMESTIC WATER" shall be placed the entire length of the piping on top of the concrete encasement and at a depth of 6" below the finished grade centered on the pipeline.

3. System Layout

The irrigation system shall be designed to prevent discharge onto certain areas that are not approved for use. Part-circle sprinklers shall be used adjacent to roadways and boundary lines to confine the discharge from the irrigation system to the approved use area.

The system design shall avoid spray patterns that include obstructions that tend to concentrate recycled water to produce ponding and/or runoff, such as spraying against bridge abutments and outlet structures.

4. System Control Devices

The system shall include automatic system control devices that can be programmed to prevent the ponding and/or runoff of recycled water. These devices shall include automatic controllers, valves and associated equipment. The devices shall be designed so that, if the current application program is producing any runoff, they can be readily programmed on site to prevent such occurrences.

5. System Operation

a. The Owner shall notify the Utility in writing if the Supervisor named on the permit for recycled water service is changed.

1. The Supervisor shall be aware of the entire system within his or her responsibility and of all applicable conditions of recycled water use. The Supervisor shall be responsible for installation, operation and maintenance of pipelines and backflow prevention connection equipment.

2. The Owner/Supervisor shall be responsible for the operation and surveillance of onsite recycled water distribution facilities to avoid cross-connections. Cross-connection between the potable water system and the recycled water system shall not take place under any circumstances.

b. The Owner/Supervisor shall maintain the irrigation system properly so as to minimize failures and to repair broken valves, pipes and sprinklers in a timely fashion.

c. The Owner/Supervisor shall educate occupants, residents and maintenance personnel on a continuing basis to be sure they understand the proper use of recycled water.

d. The Owner/Supervisor shall prevent people from drinking and minimize the contacting of recycled water.

6. System Identification

a. Each location of a recycled water outlet must be identified and marked with a conspicuous warning label. The label or sign shall be a size no less than 4 inches by 8 inches and shall include the following wording: "RECYCLED WATER – DO NOT DRINK." Signage shall be in Spanish, as well as in English, and shall include the universal symbol for "DO NOT DRINK."

b. All pipes, valves, and other appurtenances installed above the ground, that are designed to carry recycled water, shall be painted and maintained a purple color, Pantone color #512.

c. All pipes, valves, and other appurtenances installed below the ground, that are designed to carry recycled water, shall be colored purple. PVC pipe manufactured with an integral purple color shall be marked on opposite sides to read "CAUTION: RECYCLED WATER - DO NOT DRINK" in intervals not to exceed three feet.

7. Inspection Procedures

Coverage Inspection. An inspection is made annually to determine the adequacy of the recycled system in meeting the health and safety concerns. The coverage inspection reviews concerns of over spray, misting, ponding, runoff, color coding and signage. The Department of Environmental Health or the Program Specialist should be involved in the coverage test and inspection since it directly relates to the protection of public health and safety.

Cross-connection Inspection. For sites having both a potable and recycled distribution system, the method of testing is to follow a procedure, approved by the State Health Department and conducted by the Program Specialist with oversight by the local and state health department.

a. A site walk-through and record check will be performed annually to verify the lack of discoverable cross-connections.

b. An initial and subsequent cross-connection verification inspection and test shall be performed at least every four years on both the potable and recycled water systems using one of the procedures as follows:

1. Methods for conducting the cross-connection verification test:

(i) Shut down test with pressure recorders on both the potable and recycled service connections.

(ii) Shut down test by observing each outlet on both the potable and recycled service connections.

(iii) Shut down test using a TDS concentration testing of each outlet on both the potable and recycled service connections.

(iv) Shut down test using a TDS concentration testing of each hose bibs connection for sites with occupied residences.

(v) Exposing and visual inspection of all potable water lines on new construction sites.

(vi) Dye testing for sites where it is inconvenient to conduct a shut down test.

(vii) Uniform Plumbing Code test for dual plumbing inside building structures.

2. In the event that a cross-connection is discovered, the following procedure, in the presence of the Program Specialist, shall be activated immediately:

(i) Recycled water piping to the premises shall be shut down at the meter, and the recycled water piping shall be drained.

(ii) Potable water piping to the property shall be shut down at the meter.

(iii) All cross-connections shall be uncovered and disconnected.

(iv) The systems shall be retested following procedures listed in subsection (b)(2) above.

(v) The potable water system shall be chlorinated with fifty (50) ppm chlorine for twenty-four (24) hours.

(vi) The potable water system shall be flushed and after twenty-four (24) hours, a standard bacteriological test shall be performed by a certified water testing lab. If test results are acceptable, the potable water system may be reactivated.

The Department of Environmental Health Officer or their designated appointee may substitute for the Program Specialist in the inspections and tests.

I. ENFORCEMENT

1. Notice of Violation

Any person, firm, corporation, association, or agency found to be violating any provision of these Rules, or the terms and conditions of the user's service agreement, permit, or any applicable Federal, State, City or local statutes, regulations, guidelines, ordinances, or other requirements will be served by the PUD with written notice of non-compliance stating the nature of the violation and providing a reasonable time limit, as determined by the City, for the satisfactory correction thereof. This provision is in addition to, and not

by way of derogation of, any other remedies or procedures available to the City by law, regulation, or pursuant to any of the provisions of these Rules.

Notice of violation procedure shall be in addition to any other remedies available to the City, including the provisions set forth in the Water Recycling Law (California Water Code Section 13500 et seq.).

2. Non-compliance Following Notice of Violation

Failure to cease all violations within the stated time limit shall result in revocation of the permit by the Board and termination of recycled water service. At the discretion of the Board, violations regarding any one service may result in termination of recycled water service in the following manner:

- a. **Interim Revocation:** In cases where the serious nature of the violations require immediate action, the Board may, at its discretion, immediately revoke the permit on an interim basis and thereupon cease recycled water service, subject to a timely decision on a permanent revocation of the permit, pursuant to a public hearing as provided herein.
- b. **Permanent Revocation:** Permanent revocation of a permit shall occur only subsequent to a public hearing held in the manner hereinafter provided. The user shall be given written notice of violation ten (10) consecutive calendar days prior to a hearing on the possible permanent revocation of a permit by the Board. The notice shall specify the grounds of the proposed permanent revocation of such permit in reasonable detail and it may elect to suggest corrective actions acceptable to the Board. Notice may be delivered personally to the user or it may be given by deposit in the United States mail with postage prepaid, return receipt requested, addressed to the user as reflected in the records of the City, or addressed to the owner as shown on the last equalized assessment roll of the County, as defined in the Revenue and Taxation Code of the State of California. Any such action to permanently revoke the permit shall be effective immediately after notice of the Board's decision and shall be either personally delivered to the user or placed in the United States mail, postage prepaid, return receipt requested, addressed to the user in the manner hereinabove specified.
- c. **Re-establishment of Service:** Any request to re-establish service subsequent to the permanent revocation of a permit and the termination of recycled water service, shall be in the manner prescribed for initially obtaining recycled water service from the PUD, which may include the collection of a security deposit. However, in addition, the PUD may, at its discretion, require that a service agreement, approval of a new Project Report and financial security conditioned upon compliance with the Rules be provided in an amount, manner and for a period of time as determined by the PUD.

The PUD shall have the right to refuse to re-establish service following permanent revocation of a permit for violations of these provisions.

Re-establishment of service shall only be made during regular working hours established by the PUD.

- d. Delinquency: Disconnection of service by reason of a delinquent bill shall not automatically constitute revocation of a permit. However, such delinquency may be considered as sufficient reason for a revocation of permit, in accordance with the provisions of these Rules.
- e. Provisions: The continuing satisfaction of the requirements of these Rules is an on-going condition of service.
- f. Objections: The user may file a notice of objection with the PUD within sixteen (16) days after notice of violation is given or mailed to the owner. The objection must be in writing and specify the reasons for the objection. The preliminary determination shall be made, with the user able to appeal this determination in a process established by the Board. The decision resulting from the appeal process shall be final.
- g. Appeals: Appeals on any ruling of the Board concerning violations of the provisions or penalties provided for in these Rules shall be in writing requesting for reconsideration within sixteen (16) days of receiving the result of the preliminary determination. The Board may grant the user an opportunity to present additional oral or documentary information, or it may decide on the basis of information filed in connection with the objection/appeal. The Board shall respond within sixteen (16) days of receipt of the appeal, with a decision whose findings shall be final.
- h. Conflicts: If there is any conflict between the provisions of these Rules and the provisions of any other applicable laws or regulations, the most restrictive requirement shall control and prevail, as determined by the city.

CITY OF RIVERSIDE RECYCLED WATER SERVICE

GENERAL NOTES

System Operation

1. Irrigated areas of human contact - parks, playgrounds, school yard and golf courses during the late night/early morning hours.
2. Prevent washing of food or eating utensils in recycled water.

System Installation

1. Hose bibs are not permitted on the recycled water irrigation system.
2. Provide a physical separation barrier between areas irrigated with recycled water and areas irrigated with potable water.
3. Each of the recycled water system, the potable water system and any other separate water system, shall be provided with appropriate drain valving and air vacuum valves to allow the deactivation and draining of each water system.

System Identification

1. All on-site potable water lines and recycled water lines must have distinguishing identification.
 - a. The warning tape for the newly installed potable water piping must be approved 3" width marking tape, labeled "DOMESTIC WATER" centered 12 inches above the entire length of the piping. The warning tape for the recycled water piping must also be centered 12 inches above the entire length of the piping. The recycled water warning tape must be purple in color, Pantone color #512, having a minimum of 3" in width with the words "CAUTION: RECYCLED WATER - DO NOT DRINK" printed in ½ " high, black, uppercase letters.
2. All new buried recycled water distribution piping, including service lines, valves and other appurtenances shall be either embossed or integrally stamped/marked colored purple, Pantone color #512, "CAUTION: RECYCLED WATER - DO NOT DRINK."
3. Outlets for the recycled water must be identified and marked with a conspicuous warning label. The label or sign shall be a size no less than 4 inches by 8 inches, that include the following wording: "RECYCLED WATER - DO NOT DRINK." Signage shall be in Spanish, as well as in English, and shall include the universal symbol for "DO NOT DRINK."

SERVICE INTERACTIONS

The following interaction with the City can occur during the obtaining and ongoing administration of recycled water service. Interactions for irrigation and construction use may differ. Interactions are listed in the order of normal occurrence.

1. Preliminary Investigation

Applicant meets with the PUD to establish potential service locations and service pressures for proposed site. Areas that may receive recycled water and areas that must receive potable water are established. See Subsection D.2.

2. Application Submittal

Applicant completes and submits to the PUD the application form and onsite usage plan showing proposed areas to receive recycled water, proposed service locations, meter size, size and location of offsite facilities that would provide service, and any other specific call-outs regarding recycled water use. See Subsection D.3.

3. Recycled Water User Permit Issuance

The City reviews the application form and Project Report and if acceptable, submits copies to the RWQCB for their review and approval. The PUD concurrently submits copies to state and county health departments for their review and approval. If regulatory review of application is successful, the PUD issues a Recycled Water User Permit with assigned accounting number. See Subsection D.4.

4. Plan Submittal

Irrigation designer prepares plans and specifications and submits three copies to the City for review. Designer concurrently submits additional required information along with construction cost estimate to establish plan review and inspection fee. Plan review and inspection fee is paid to the PUD. Plans must be approved prior to facilities installation. Construction water user prepares and submits location drawing to the PUD for review. Operator concurrently submits materials list to the PUD for approval prior to construction of water facility installation. See Subsection D.5.

5. Construction Schedule

The contractor submits facilities installation schedule to the PUD in order to initiate the inspection process. A minimum of 70 hours notice must be given before starting work and before all inspection requirements. See Subsection D.5, G.3 and H.1.

6. Record Document Submittal

Irrigation designer prepares as-built drawings and control charts and submits to the City for review and approval prior to regular service start-up. See Subsections G.3 and G.5.

7. Service Connection

The user makes a request to the PUD to have meter(s) installed. The request for meter(s) must be accompanied by all preliminary and connection fees. See Subsection F.2.

8. Final Inspection

The contractor or user requests the PUD to perform a final inspection after completion of facilities installation and approval of any required record documents. Operational testing is included as part of final inspection after the completion of the shut-down verification using potable water. See Subsection H.7.

9. Service Start-up

User makes a request to the PUD for service start up after final inspection. The City notifies RWQCB of intent to begin service and, upon authorization of RWQCB, the PUD begins regular service after a successful "cross-connection shutdown test" as described in the Project Report. Start-up requests must be accompanied by cash deposit. After start-up, the City confirms service to RWQCB and state and county health departments. See Subsection F.2.

10. System Surveillance

The PUD Program Specialist regularly inspects, at least annually, the offsite and onsite facilities to make sure the system and operation is in conformance with the permit. A written report documenting the results of the inspection shall be submitted to the State Health Department. See Subsection H.7.

11. Reporting

The PUD reports the volume of recycled water consumed by user as part of billing. The City reports the quality of recycled water only upon a specific request by the user. See also Subsection F.3.

12. Violations

The PUD's Program Specialist determines violations of the permit and immediately notifies the onsite Supervisor. Violation constituting immediate public health danger and minor violations not corrected in reasonable time result in service termination by shutting

off meter and locking it. Service resumption must be accompanied by start-up fee. User may appeal determination to the City. See Subsection H.1 and Section I.

Adopted by Board of Public Utilities: June 20, 1997

Approved by City Council: July 8, 1997

Effective Date: August 8, 1997

APPENDIX E.3

Recycled Water Rate

Appendix E.3

City of Riverside
Public Utilities Department

SCHEDULE WA-10

RECYCLED WATER SERVICE

APPLICABILITY:

Applicable to all retail recycled (reclaimed, non-potable) water service for irrigation, commercial or industrial use.

TERRITORY:

City of Riverside and contiguous area.

RATES:

A. Basic Area (Inside City)

<u>Quantity Rates</u> (to be added to Customer Charge)		<u>Per 100 Cubic Feet</u>
Existing Customers Commodity Charge per month		\$0.30
Future Customers Commodity Charge		Contract Rate
<u>Customer Charge</u>		<u>Per Meter, Per Month</u>
1. Existing Customers		
All meter sizes through	4-inch	\$178.93
	6-inch	357.87
	8-inch	572.59
	10-inch	825.24
2. Future Customers		
All meter sizes		Contract Rate

B. Surcharge Area Outside City

Charges shall be the amount computed at the Quantity Rates for Future Customers and the Customer Charge set forth in the Basic Area of this schedule multiplied by 1.5.

Adopted by Board of Public Utilities: May 14, 2004
Approved by City Council: May 25, 2004
Effective Date: June 1, 2005

Board Resolution No. 2004-01
Council Resolution No. 20694

SPECIAL CONDITIONS

1. Obligation to Supply Recycled Water

The Water Utility will provide recycled water service under this schedule only when and where such recycled water is available and can be supplied at a reasonable cost in accordance with Water Rule 18.

In determining reasonable cost, the Water Utility may consider all relevant factors, including but not limited to, the present and projected costs of supplying recycled water. Grants or subsidies may be used to reduce total development costs.

2. Continuity of Service and Water Quality

There is no guarantee of continuous service nor uniform quality of recycled water; therefore, the Customer must have a separate service connection for potable water.

3. Applicability of Rules and Regulations

The applicability and provision of recycled water service under this schedule is subject to rules and regulations adopted from time to time by the Board of Public Utilities, including without limitation Water Rule 18 (Recycled Water Rules).

4. Water Conservation and Reclamation Surcharge

The rates and charges above are subject to a surcharge (Water Conservation and Reclamation Surcharge) as adopted via City Council Resolution No. 20695 on May 25, 2004 and such surcharge as is in effect from time to time. The Water Conservation and Reclamation Surcharge will be applied to the Customer's total water usage charge including without limitation the quantity rates, customer and minimum charge for the applicable billing period.

5. Definitions

a. **Contract Rate.** The Contract Rate shall mean the Commodity Charge for Recycled Water as established under individual recycled water contracts with Future Customers approved by the Board of Public Utilities and approved by the City Council. The Contract Rate shall be calculated to provide for the Utilities recovery of all City funded costs associated with the production, additional treatment,

transmission and distribution of recycled water to individual Future Customers, and the general fund transfer.

b. Existing Customers. Existing Customers shall mean those Customers of the Water Utility with a recycle water connection(s) to the City's Off-Site Facilities (as defined in Water Rule 18) and receiving water from the City, as of June 1, 2004.

c. Future Customers. All customers, except for Existing Customers, requesting recycled water from the Water Utility.

ENERGY COST ADJUSTMENT FOR PUMPING WATER:

The Quantity Rates shall be subject to an energy cost adjustment relating to increases and decreases in the cost of electric power for pumping water. This energy cost adjustment shall apply to each one hundred cubic feet (CCF) of sales to which Quantity Rates apply. Determination of the adjustment factor shall be made at the beginning of each quarter, with the initial adjustment beginning February 1, 1983. The energy cost adjustment shall be calculated by dividing the CCF of metered water sold in each quarter into the total dollar amount of fuel cost adjustments plus any base rate increases imposed by power suppliers for pumping water during that quarter:

- A. Fuel cost adjustment charges by Southern California Edison Company.
- B. Fuel cost surcharge charges by City of Riverside.
- C. Base rate increase charges by Southern California Edison Company.*
- D. Base rate increase charges by City of Riverside. *

$$\frac{\$ (A+B+C+D)}{\text{CCF (Metered Sales)}} = \$.0000 \text{ per CCF}$$

The resultant shall be the energy cost adjustment factor for pumping water and shall be expressed in terms of cents per CCF carried out to the nearest \$0.0001. This factor shall be divided by 0.885 to allow for the 11.5% of gross revenue payable to the City General Fund. The resultant shall then become the energy cost adjustment to be multiplied by all CCF increments reported in billings to Customers. The resultant amount in each case, expressed to the nearest \$.01, shall constitute the adjustment to be added to the Customer's bill.

* (Over base rates in effect February 1, 1983)